every month and reports on the conditions and the health of the employees. We insist that the milk be bottled immediately after milking and be sealed, cooled to 50° F. and kept at that temperature until sold. We allow about 30 hours for the delivery, but find the milk will keep indefinitely if kept cold.

"Expenses to Dairymen: A dairy applying for a certificate must first advance the fees for examinations by chemist, bacteriologist, and veterinarian, and pay the actual expenses of a visit to the dairy by all the members of the commission. Then a vote is taken on the dairy, and if satisfactory a certificate is issued for one month. If not passed, another examination is required when the faults have been corrected, and one member of the commission visits and reports on conditions as changed. This is also at the dairyman's expense. After receiving the certificate the dairyman must pay directly the experts' bills, amounting to about $30 a month, and also a small tax to the commission on each quart of milk sold, to pay our actual expenses. At present this tax is 1/8c a quart, which gives a sufficient income. We levy this tax by buying the certificates ourselves and selling them to the dairyman at a slight advance.

"Price of certified milk: We have nothing to do with the price; but personally I believe a good profit can be made on the sale of 300 to 400 quarts a day at 15c a quart.

"Success: The first dairy began selling certified milk in San Francisco last April; since then it has been impossible to supply the demand. This dairy has increased its output about 100 quarts each month and at present (Nov. 17) they are selling over 900 quarts a day at 15c a quart. A second dairy has started with 25 cows and sells about 100 quarts." (In a letter just received the last of December Dr. Spalding tells me that the commission is certifying the milk of three dairies, which supply five city milk dealers.)

Evidently the people of San Francisco appreciate purity in milk if not in politics!

In concluding this presentation of the importance of pure milk and the aims and methods of Medical Milk Commissions in obtaining pure, reliable milk for infants and invalids I must appeal to you, gentlemen, for support. The success of certified milk in Santa Barbara depends quite as much on you as on the dairymen and the commission. The people must be taught the dangers of ordinary milk; they must be taught to demand pure, certified milk for their babies and sick ones; and who but we physicians can or will teach them these things? The press may help the cause somewhat; but let us not rely at all on it, but teach our own patients and friends the value of certified milk and strongly recommend it in our own practice.

REPORT OF THE MILK COMMISSION OF THE SAN FRANCISCO COUNTY MEDICAL SOCIETY.

By the Chairman, ALFRED BAKER SPALDING, M. D., San Francisco.

It is because the physicians have created a demand for pure milk that the dairyman has invested his capital and devoted his time and energy to obtain the same and place it on the market. The milkman is decidedly practical and is willing to do any possible thing that produces a fair return for his money. He was promised the moral support of the profession if he would conduct his milk business along certain supposed odd and theoretical lines. This he has done. The public can now obtain in San Francisco an abundance of pure milk, and this pure milk will continue to be available just so long as the milkman finds it to his profit to produce it.

Unfortunately, the public left to themselves prefers milk that is cheap to milk that is pure, and so it becomes an important duty of the family physician to impress their patients with the dangers of cheap milk and to do what they alone can do—create a healthy public opinion in favor of pure milk.

There are many brands of so-called "pure milk," but only one has held the respect of the laity, and that is the milk certified to by an organization of unbiased and commercially uninterested physicians. In 1893, through the efforts of Dr. H. L. Coit and the Essex County, N. J., Medical Society, a dairyman was induced to produce milk of a high standard of purity, according to the directions of a Medical Milk Commission, for Newark, N. J. Other localities slowly took up this idea and in a similar way obtained what has generally come to be known as "certified milk," until at present there are in the United States thirty-four medical milk commissions with a national organization known as the American Association of Medical Milk Commissions, which hold annual meetings at the same time and place as the American Medical Association.

Briefly, "certified milk" means a milk from well-fed, healthy, non-tubercular cows, a milk so free from contamination and so carefully handled from the time of milking to the time of delivery, that the bacteria content shall not at any time exceed 10,000 germs per ccm., a milk containing all the nutritious milk solids without subtraction, addition or manipulation of any kind, a milk that is immediately cooled, bottled and sealed at the producing farm and delivered cold in such original container to the consumer as quickly as commercial facilities will permit.

Such a milk you can readily understand is of the utmost value in infant feeding and for the feeding of the sick. Imagine the effect both psychical and physical on a typhoid patient, for instance, of mixing with his drinking water an amount of tuberculous cow manure sufficient to produce a perceptible sediment on standing, of allowing this contaminated water to remain warm until the bacteria content ran (to place it at a low figure) two million germs per ccm. and then of flushing the patient's digestive tract with quantities of this foul and nauseating beverage! How many well people would drink it knowingly? And yet, so far as the Milk Commission can learn, there is not in San Francisco a hotel or hospital where an adult guest or patient can obtain a glass of milk with any less number of germs or which is any more free from tuberculous cow dung.

It is true that a sort of bacillus soup called "pasturized" milk can be obtained from which has been strained a part of the sediment (manure) together with all legal excess of butter fat, which has been heated for a few seconds to a degree that kills many of the harmless germs and stuns some of the more virulent ones.

In the fall of 1905 the President of the San Francisco County Medical Society appointed a commission to obtain for San Francisco a supply of pure milk to which the society could certify. The members of this commission, of which the writer was chairman, did not at first know a great deal about certified milk, and it took them some months to master the situation. However, they did succeed in placing on the market certified milk from two different sources for just one month previous to the fire of April, 1906. In January, 1907, an ill-advised President of the society thoughtlessly demoralized this important work by discharging the original commission and appointing a new one imbued with all the ignorance and inexperience that marked the inauguration of the first commission. Throughout 1907 nothing of importance was accomplished. During the past year satisfactory results have been attained and maintained, and it is the desire of the commission that a report of the aims, methods and results be made to the Society in order that, with a better understanding of conditions, the success of the venture be assured.

According to resolution of the Society, the President appointed last January five members to serve on the Milk Commission in such a way that in the future the complexion of the Commission can be changed only gradually and one new member appointed annually. These five are instructed to elect two lay members beginning with the coming year.

In April the milk from the Ideal Farms met the requirements of the Commission and was given a certificate. In November the milk from the Warren Model Dairy was certified, and in December the Timm Dairy received certificate. These farms are widely scattered, one being in Marin county, one at Menlo Park and the third at Dixon, near Sacramento. It requires an endless amount of work and watchfulness to see that the required standards are maintained.

The milk that is received in the sealed bottle with the certificate of the County Medical Society is produced on these model farms by healthy, well-fed, non-tuberculous cows, cows which are cared for carefully, which are well groomed before milking and milked in large, fresh, well-ventilated stables by intelligent milkers dressed in clean white clothes. The milkers wash the udders of the cows and milk with well washed dry hands. The milk is received in sterile pails having seven-inch openings, is promptly and efficiently cooled, mixed and poured into sterile bottles, after which it is sealed, stamped with the day for delivery, and transported cold to the distributer in San Francisco. The distributing agents, whose market milk is frequently subject to the disapproval of the local health authorities, cannot mix the certified milk with the ordinary supply and are under contract with the producer to deliver the milk according to the requirements of the Milk Commission. This milk must contain from 3½ to 4% of butter fat, with an amount of solids not fat of at least 8½% and must contain not more than 10,000 germs per ccm.

The expert work is done by the members of the faculty of the College of Agriculture in Berkeley. A veterinarian from the university visits the different farms each month and renders a report to the Commission in regard to the health of the herds and the sanitary conditions of the dairy. Once each week from the laboratories at Berkeley, Prof. Jaffa, the chemist, and Prof. Ward, the state bacteriologist, send reports in regard to the chemical and bacteriological condition of the milk, picked at random from the delivery wagons in San Francisco. In addition to these inspections some member of the Commission makes a personal visit to each of the farms some time during the month to ascertain the health of the employees and the way in which the rules of the Commission are being carried out. By invitation, Dr. George S. Baker, chief of the Pacific Coast division, Bureau of Animal Industry, Washington, D. C., has acted as counselor to the Commission, and besides attending meetings of the Commission has visited the farms to give practical aid to the dairymen. During the year the Commission has held 36 meetings with an average attendance for the five members of over four at each meeting. Sixteen preliminary visits have been made by members to farms preliminary to granting certificate, and in addition eleven monthly visits have been made to certified farms, making a total of twenty-seven visits. The secretary of the Commission attended the annual meeting of the Association of American Medical Milk Commissions in Chicago last June and rendered a report of work done in San Francisco. The dairymen have exhibited a willingness to meet the requirements of the Commission and to invest the capital needed to improve the quality and purity of the milk.

The germ count has, with the exception of one month, remained in the neighborhood of 2,500 germs per ccm., with a minimum count of 320 and a maximum count of 7,600. When the count ran high in July the cause was detected by our experts and promptly corrected by the dairyman. It has been hard to maintain a constant per cent of butter fat and is a problem the Commission still has to contend with. The total solids have averaged from 12½ to 13%.

The dairymen pay for the work of the experts, and, since last November, have paid for the running expenses of the Commission.

The sale of certified milk has increased at a rapid rate. Beginning in April with a few dozen quarts the sale for December amounted to 1,165 quarts per day. The dairyman depends on the members of the Society to recommend his product. He receives a certificate only from month to month, and so long as he meets the requirements his name as well as the names of all his distributers are sent to each member of the county society. Twice during the year the secretary of the county society neglected to place the names of the dairymen on the regular program, much to the chagrin of the Commission, as this forms part of the contract with the dairyman.

The Commission commends to the Society the certified milk now on the market and urges the members to encourage its use in families and hotels for general consumption and to insist on hospitals and private patients being supplied with a sufficient amount of certified milk for the nourishment of all infants and invalids needing a milk diet.

PERSISTENT OMPHALOMESENTERIC DUCT WITH ACCESSORY PANCREAS.*

By W. W. ROBLEE, M. D., Riverside.

The patient, T. P., aged 2½ years, came to me January 6, 1908, the mother stating that the baby's umbilicus was sore and constantly moistened by a watery discharge. The confinement was a normal one, the cord came off within a week, and the navel was apparently normal until at the age of 20 months, the mother noticed a drop of blood coming from it. There appeared to be some very small granulations present at this time, but no tumor growth, and from that time on the navel remained red and moist. It was cauterized several times with nitrate of silver, and in December, 1907, shortly before they came to California, it was curetted by their physician, Dr. Watkins, in Washington. After they came here, on two different occasions I touched what appeared to be two small red granulations, with chromic acid, but the discharge continued. In March, 1908, the child was taken ill with an acute infection, probably influenza. He was seriously sick, and then before he fully recovered, an attack of pertussis developed. During this time, about six weeks, the mother paid but little attention to the navel, and upon her return from a stay at the seashore, she brought the child to my office.

Upon inspection, I found that since seeing the patient about a month previous, a small tumor mass had developed outside of, but connected by a pedicle to the umbilicus. This was ½-inch in diameter, round, red in color and very firm in consistency. After excluding hernia, in diagnosis, I recommended its excision. This I did under chloroform anaesthesia and followed it by a thorough cauterization of its base by the electro cautery.

At this date, eight months after the performance of the operation, it has healed completely and no more moisture occurs at the umbilicus. Whether the result will be permanent or not, I am unable to say, but I judge from the histological findings, that there will be no more trouble.

Histology. A vertical section through the tumor mass shows the following condition: The tumor is solid, the outer covering is composed of a layer of intestinal glands. Below this, is a layer of connective tissue, then comes the central portion of the tumor, which is composed of typical pancreatic tissue, lobes, lobules, acini and characteristic islands of Langerhans. No excretory duct can be found; but one was undoubtedly present, and through it the moisture came which caused so much annoyance. We then have forming the base of the tumor, another layer of connective tisssue and some unstriped muscle fibers. It is evident from the section that the tumor was excised well below the pancreatic tissue, and I look for no further trouble from that source.

The explanation of the histological findings has been difficult to arrive at, and I have been unable to find any case reports showing a like condition. The layer of intestinal mucous membrane evidently is due to a persistence of the omphalomesenteric duct; the pancreatic tissue is a so-called accessory pancreas, which evidently became displaced in early embryological life. I find no records of an accessory pancreas having increased in size so rapidly as did this one. In fact, the largest gland I find a record of, is reported by Thorel,[1] said to be the size of a two-mark piece. The usual size is from 1 to 2 cm. in diameter.

Both the persistance of an unclosed omphalomesenteric duct and an accessory pancreas are interesting and unusual pathological conditions. When both occur in the same individual, the case is of sufficient rarity and interest to demand a very careful study of the embryological conditions that may cause the same.

Portions of the omphalomesenteric duct persist in one person out of every fifty, according to the figures given by the Anatomical Society of Great Britain and Ireland.

In the embryo at the 4th week, the intestine communicates with the yolk sac by means of a tube or canal, the ovo vitelline or omphalomesenteric duct. Along with this canal, are an artery and vein. By the end of the sixth week, the abdominal plates close, the umbilical vesicle, the duct and blood vessels atrophy, and in a short time nothing remains but a few fibres which unite the intestine to the umbilicus. The atrophy of this duct may not be complete and we may have a partial or complete persistence of the canal. If it is complete, there may be a persistent fecal fistula at the umbilicus. If it is incomplete, we have a blind pouch remaining, which is similar to the appendix vermiformis in character; but usually thicker and larger, which has been called Meckel's diverticulum, after the observer who was the first[2] to explain, "In what manner this fault of primitive formation arises."

The diverticulum is in probably 85% of cases attached to the ileum; but it may be attached to any portion of the small intestine. It is one of the important causes of intestinal obstruction in children, the bowels becoming kinked or caught about this fibrous band, and thus becoming strangulated. It is also subject to inflammation with all the acute symptoms of an appendicitis, and if it is not excised bands of adhesions form which still further add to the probability of an intestinal obstruction. In fact, bands and cords in the abdomen are second in importance only to intussusception in the causation of intestinal obstruction; these bands frequently have their origin from omphalomesenteric remains.

Now to turn for a moment to a consideration of accessory pancreas, we find a similar condition of affairs. It is a comparatively rare anomaly; a careful search of the literature gives a total of only about 70 cases situated away from the immediate neighborhood of the main organ, reported to date.

* Read before the Southern California Medical Association, Santa Ana.